



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/568,661

10/13/2006

Bob Coyne

14923.0037

5249

27890 7590 03/11/2009
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER

POURBOHLOUL, SARIIRA CAMILLA

ART UNIT

PAPER NUMBER

4151

MAIL DATE

DELIVERY MODE

03/11/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,661	Applicant(s) COYNE ET AL.	
	Examiner SARIRA POURBOHLOUL	Art Unit 4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 14-16 is/are rejected.
- 7) ☐ Claim(s) 8-13 and 17-40 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____. |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10/4/07; 9/12/08; 5/6/08; 2/12/09; 1/24/08; 10/24/07.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Regarding claims 5 and 7, the phrases "such as" and "any" render the claim indefinite because, in this situation, the claims recite "such as gelatine/arabic gum", "any protein/ionic hydrocolloid", "such as silicone dioxide", which make it unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Objections

4. Claims 8-13 and 17-40 are objected to under 37 CFR 1.75 (c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5 are rejected under 35 U.S.C. 102 (e) as being anticipated by Yan et al. (US 2005/0067726 A1).

7. Regarding claim 1, Yan teaches single-core and multi-core microcapsules formed by a method of coacervation whereby the microcapsule comprises of:

a solidified hydrophobic shell matrix [0038], [0068];

an encapsulated aqueous microcapsule further encapsulated in a solidified hydrophobic shell matrix ([0028], [0036] and [0055]), and

the active ingredient or ingredients dissolved or incorporated in the encapsulated aqueous core or cores [0029].

8. Regarding claim 2, Yan teaches encapsulated aqueous core (bead) material encapsulated in a gelatine and polyphosphate hydrocolloid film ([0032], [0037], [0055], example 1: line 1-6).

Art Unit: 4151

9. Regarding claim 3, Yan teaches encapsulating material of core or cores being cross linked by changing pH and temperature of the hydrocolloid dispersion ([0036], example 1 line 21, example 2: [0076]).

10. Regarding claim 4, Yan teaches coacervation as the method of encapsulating core material by using two oppositely charged polymers ([0031, [0059]).

11. Regarding claim 5, Yan teaches encapsulating material used in coacervation is a mixture of positively and negatively charged polymer hydrocolloid such as gelatine and polyphosphate ([0032], example 1: line 1-6).

12. Claims 14-16 are rejected under 35 U.S.C. 102 (b) as being anticipated by Morgan et al. (US 5204029).

Regarding claim 14, Morgan teaches a method for preparing multi-core microcapsules, comprising the steps of mixing the material of solid shell and the material of the core (col. 2, line 42-60) along with a food additive such as antioxidants, dyes, flavors and hydrolyzed vegetable protein (col. 1, line 5-14; col. 4, line 44-49, col. 7; example I, col. 7; example III and IV) in an emulsifier **10** and subsequently in a mix tank **14**. Morgan discloses and exemplifies combining the core (aqueous phase) with the shell material (hydrophobic phase) and homogenizing it in an emulsifier **10** where they form a water-in-oil emulsion (col. 6, line 27-32; example I). Furthermore, the dispersion is encapsulated by spray cooling method of hardening the fluid shell by spraying the emulsion into chill tower **22** (col. 6, line 53-57 and col. 7: example I, II, III and IV).

Regarding claim 15, Morgan teaches the aqueous phase of the microcapsule core being a true solution of a solute in a solvent consisting essentially of water (col. 5, line 3-6).

Regarding claim 16, Morgan teaches the encapsulating material is one of a large group of chemicals including edible starches such as corn starch (col. 5, line 27).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 4151

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yan as applied to claim 1-5 above, and further in view of Broderick et al. (US patent 5139787).

15. Regarding claims 6 and 7, Yan teaches single-core and multi-core microcapsules formed by a method of coacervation as described above. Yan does not teach sintering as a method of micro encapsulation.

Broderick implicitly teaches sintering as an encapsulation method wherein monomers in droplets are cross-linked (fused) by increasing the temperature of the synthetic polymer beads to a temperature above their glass temperature (example I: line 34-36). The encapsulating material used in this process is synthetic porous polymeric beads made from a copolymer of divinylbenzene and styrene (col. 4, line 53-57, example I: line 33-35). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to apply process of Broderick to obtain microcapsules of Yan as such modification would still provide microcapsules filled with

Art Unit: 4151

multiple cores (beads) and therefore is viewed as an alternative method of obtaining the same product.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARIRA C. POURBOHLOUL whose telephone number is (571)270-7744. The examiner can normally be reached on M-Th, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on 571-272-1260. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4151

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. P./

/Angela Ortiz/

Supervisory Patent Examiner, Art Unit 4151